LEGAL CONSTRAINTS ON METHANE GAS DEVELOPMENT

Monograph 5

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FOREWORD

This monograph examines in detail the legal constraints on development of America's enormous methane gas reserves. Although methane occurs naturally in a variety of physical settings, for the purposes of this work I refer to methane found in coal seams, since coalbed methane recovery presents the most complicated legal questions.

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SUMMARY

Coalbed methane, long considered as a safety hazard, is now being viewed as a potential major energy source. Alabama's known methane reserves are enormous. One group of Alabama coal beds could eventually yield up to 750 million cubic feet of gas per acre/foot of coal.

The biggest obstacle to methane recovery is the ownership issue. At the time most mineral conveyances were made, methane was not known to have any value. Today lawsuits to determine methane ownership rights have been filed among surface owners, coal rights owners and gas rights owners. Some legal scholars have looked to natural gas laws to provide an analogy for these methane cases. The two main judicial views on gas are the ownership in place theory, which holds that gas in its underground state is subject to ownership and that actual possession of the gas verifies, but is not a prerequisite to, this ownership; and the non-ownership theory. The latter theory, to which Alabama and a minority of other states subscribe, holds that actual possession of gas is essential to ownership.

In applying these theories to methane claims, the ownership theory may favor the coal rights owner, since methane is found in coal seams. The non-ownership theory may favor the gas rights owner or the surface owner, since no one "owns" the gas while it is still in its natural underground state.

Courts look to the language of a conveyance to determine whether methane rights are coveyed. One important question which must be answered is whether methane is a natural gas. Methane forms the major component of conventional natural gas. The main difference between methane and conventional gas is methane's association with coal seams. The coal industry argues that methane should be considered a "by-product" of coal.

In addition to ownership conflicts, conflicting use problems are a barrier to methane development. Coal operators are required by law to vent methane before

mining can begin. If the gas rights are owned by one party and the coal rights by another, questions of use priority arise. May the coal operator vent the methane so that the mine can be worked? If so, must compensation be paid to the gas owner? The Pennsylvania Attorney General's office issued an opinion concluding that Pennsylvania's "non-ownership" theory applied to methane, and that a coal-rights owner owns the coal but not the methane. The opinion further stated that a conveyance of coal rights includes the right to vent the methane in the seam so that mining can begin, but that this right did not give the coal rights owner a property in the methane. The opinion stated that the right of economic control over the methane belonged to surface owner or the gas rights owner.

Two states, Virginia and Oklahoma, have passed statutes to solve conflicting claims to methane. The Oklahoma statute does not specifically mention methane, but declares that "natural gas" is the property of the surface owner or gas lessee. The Virginia statute, which does mention methane, states that all "migratory gases" are the property of the surface owner.

The most important judicial interpretation of methane rights was made in the Pennsylvania case of U.S. Steel v. Hoge. In this case, currently on appeal, the court held that methane is a natural gas; that it is legally a separate entity from coal; and that the coal severance deeds in the case, drawn in 1920, were not intended to include methane since at that time methane was not generally thought to be of value. The court further found that the oil and gas lease in this case conveyed all the subsurface gas, including the coalbed methane; that the coal owner's right to vent the methane did not convey a property right to all the methane in the coal seam, but that the coal owner might capture and sell the methane which was released during the ventilation process; and that the gas rights lessee had the right to drill into the coal in search of methane, but did not have the right to use a "hydrofracturing" procedure on the coal seam which while it facilitates removal of the gas also may damage the roof strata of the coal mine. Finally,

the court stated that drilling permits could not be "indiscriminately" issued for gas wells which might interfere with coal mining operations; and that coal operators were under no duty to leave blocks of coal in place for the sole purpose of feeding methane wells. If this decision is upheld, it will offer persuasive authority to other states to declare methane a natural gas and to award ownership of methane rights to the gas owner. However, important questions not addressed by the Hoge case include whether the coal owner can force the methane owner to vent the gas from the mine; whether the methane owner can recover for the value of any gas vented by the coal owner; how much interference with coal mining operations will be allowed; and whether the methane owner can recover for any gas lost as a result of not being able to use hydrofracturing or similar techniques.

In Alabama, the State Oil and Gas Board has assumed jurisdiction over methane production. In other states, regulation of methane has been undertaken by oil and gas regulatory boards. Most states have not adopted regulations specifically referring to methane. West Virginia, which has several operating methane wells, has extended its natural gas permitting requirements to cover methane.

Methane is covered under existing federal and state mining safety regulations. Other federal laws applicable to methane include federal oil and gas lease laws, the National Environmental Policy Act, and the Natural Gas Policy Act. Environmental laws requiring an Environmental Impact Statement could be applied to methane venting from coal mines and might require an analysis of the benefits of capturing the methane rather than wasting it. Funds have been appropriated through the Methane Research, Development and Demonstration Act of 1980 to establish a research and development program relating to methane fueled vehicles.

Lack of a legal definition of methane may cause problems for methane producers seeking to take a tax depletion allowance. There are different depletion allowances for coal and natural gas. In the absence of a legal definition a tax-

payer could arguably elect whether to treat methane as "coal" or "gas." Precedent exists for IRS to declare methane a gas for depletion purposes. In the case of Reich v. Commissioner, it was decided that the oil and gas depletion allowance should not be narrowly construed, and that geothermal steam could be considered a gas for tax purposes.

The legislative trend in states has been to adopt legislation defining methane as a natural gas and vesting methane ownership in the surface owner. Courts will continue to decide cases brought to interpret conveyances made before the effective date of such acts. Pennsylvania attempted to vest methane ownership in the state. This proposed legislation failed, as did a bill in West Virginia which would have vested methane rights in the gas lessee. An old U.S. Supreme Court decision, Ohio Oil Co. v. Indiana, allows legislative regulation of coalbed gas extraction. However, Ohio does not support any attempt to vest methane rights legislatively in one or the other lessee, since such a provision could be challenged as a violation of the constitutional prohibition against taking of property without due process. The trend in federal legislation will be toward regulating methane through existing laws, and reconciling policy conflicts between safety requirements and prohibitions against waste.

State legislatures should take advantage of the time available to formulate basic state policy on methane development. A legal definition of methane should be developed, and present state laws which could be amended to regulate methane should be so amended, to avoid costly litigation. A legislative declaration of methane ownership is also desirable. Any such declaration must be precise and, to avoid constitutional challenges, should vest methane rights in the surface owner.

Conflicts between laws requiring methane to be vented from coal mines and federal energy policy which prohibits waste of energy resources could be resolved by requiring that the methane be captured rather than released into the atmosphere.

Remedies for use conflicts presently available at law and which could be enacted into legislation include quitclaim and adverse possession. In both, methane becomes the property of the party who first reduces it to possession. If after a period of years, the gas rights owner does not capture the methane, the coal operator is entitled to vent it. Policy should require, however, that the gas owner be compensated for loss of the methane.

In the absence of legislation resolving use conflicts, coal and gas lessees should negotiate among themselves to insure that mining operations are not unduly delayed by the presence of unvented methane, and also to insure that this potentially valuable resource is not wasted. The coal operator should attempt either to purchase the rights to the methane or to contract with the gas owner to collect and store the methane for the gas owner in return for compensation.

BACKGROUND

Coal is Alabama's most abundant fossil fuel. With increasing emphasis placed on reducing foreign energy dependence, it is predicted that coal production will form a key part of Alabama's economic structure in the future. By 1985, Alabama's coal production is expected to total 38 million tons.[1]

Traditionally, coalbed methane has been viewed as a major safety hazard by the mining industry. However, with the onset of the energy crisis, this natural gas has attracted the favorable attention of the coal, oil and gas industries. In Alabama, the Mary Lee Group of coalbeds in the Warrior field contains an enormous reserve of methane. It is estimated that with proper recovery techniques, individual beds in the Mary Lee Group could yield up to 750 million cubic feet of gas per acre/foot of coal.[2]

Coalbed methane has been produced annually in other countries for over a century, and enjoyed a spell of popularity even in the United States. By 1817, the city of Baltimore was supplied with gas lighting from methane. Not until the 1940's did most American coalgas plants switch to electricity.[3]

While methane has been produced commercially in this country, the laws governing methane ownership and production are in general still concerned only with methane as a liability--a dangerous substance which must be vented from mines to protect lives and property--rather than a potential economic asset.

OWNERSHIP THEORIES

The biggest obstacle to economic recovery of methane from coalbeds is the ownership issue.[1] Most of the existing methane case law addresses the question of ownership of mineral rights (traditionally including oil and gas).

Since, at the time of purchase of most mineral leases, coalbed methane was not widely known to have any value, no mention is made of it in those conveyances. With the increasing interest in methane production, proprietary claims may be advanced by coal-rights owners and oil/gas rights owners.

Because methane gas forms the major component of conventional natural gas, an examination of natural gas law in general may be helpful. There are two judicial views on natural gas: the ownership in place theory and the non-ownership, or contingent ownership, theory.

Ownership in place is the majority view. A leading decision stated the theory thusly: "gas and oil in place are mineral and realty, subject to ownership, severance, and sale while embedded in the sands or rocks beneath the earth's surface, in like manner and to the same extent as is coal or any other solid mineral." Stephens County v. Mid-Kansas Oil & Gas Co., 113 Tex. 160, 254 S.W. 290 (1923). However, natural gas is not a "solid mineral." A West Virginia court attempted to reconcile the migratory nature of gas with the ownership in place theory by holding that the owner of a tract of land is considered to have the fee only in oil and gas underlying the boundaries of his property, although they are not the subject of actual possession until brought to the surface. Boggins v. Milam, 127 W.Va. 654, 34 S.E.2d 267 (1945).

It has been suggested that the ownership in place theory, carried to its logical extreme, leads to the assertion that the coal-bearing strata producing the gas is the interest that is held.[2] In Chartiers Block Coal Co. v. Mellon, 152 Pa. 286, 25 A. 597 (1893), the court stated that "Now the surface of the land may be separated from the different strata underneath it, and there may be

as many different owners as there are strata."

In states adopting the ownership in place theory, actual possession of the gas merely verifies ownership. However, in the minority of states, including Alabama, which adopts the non-ownership theory, actual possession establishes ownership.[3] The non-ownership theory recognizes that oil and gas are migratory. The states adopting this view[4] regard the landowner's proprietary interest as the right to reduce the oil and gas to possession, or to sever this right for economic consideration. The essential elements of this theory are as follows: an exclusive right in the landowner to search for oil and gas; the right to make a grant of this right to another; definition of the right as an incorporal interest, the owner not being entitled to possessory actions; and recognition of the "migratory character" of oil and gas.[5] An early case, Westmoreland & Cambria Natural Gas Co. v. DeWitt, 130 Pa. 235, 18A724 (1889), held that natural gas should be considered to be, for ownership purposes, in the class of "ferae naturae" or wild animals--that is, like wild animals, which under the common law were not able to be claimed as property, gas has "the power and tendency to escape without the volition of the owner." In Ohio Oil Company v. Indiana, 177 U.S. 190 (1900), the U.S. Supreme Court stated that the "ferae naturae" analogy breaks down in the face of a need for state regulation and control of oil and gas. The Supreme Court, then upheld a state statute designed to prohibit waste of natural gas. This decision solved the main problem of the "ferae naturae" rule--the failure to recognize a commercial right to oil and gas in the landowners. In non-ownership states, including Alabama, today, the owner's interest, while protected, is still regarded only as a right to reduce to possession.

In Alabama, interest in oil and gas leases, landlords' royalties, and oil, gas and mineral rights are considered "incorporal hereditaments." Lake v. Sealy, 231 Ala. 466, 165 So. 399 (1936). Ordinarily, the term "minerals" includes natural gas in Alabama. Carter Oil Co. v. Blair, 256 Ala. 650, 57 So.2d 64 (1952).

Code of Alabama 1975, § 9-17-1 defines gas as "all natural gas, including casinghead gas, and all other hydrocarbons not identified as oil . . ." The State Oil and Gas Board, discussed in detail below, has the authority to regulate oil and gas production in the state. The interest of a lessee under the terms of an oil and gas lease must be determined by the terms of the lease, and not by any particular rule. Moorer v. Bethlehem Baptist Church, 272 Ala. 259, 130 So.2d 367 (1961).

Ownership conflicts arise when a minerals conveyance is not sufficiently specific as to which minerals are being conveyed. In Alabama, as noted above, natural gas has been held to be included in a grant of mineral rights. The language of the grant itself must be looked to. The Alabama Supreme Court held in W.S. Newell Inc. V. Randall, 373 So.2d 1068 (1979), that "in determining what is included within a reservation or grant of minerals . . . the meaning of the term is to be ascertained from language of instrument and surrounding circumstances evidencing the intention of the parties." The court noted that the term "mineral" necessarily implies a substance "rare and exceptional in character, possessing special value."

Methane is "rare and exceptional in character," but was not formerly thought to possess special value, except the "negative value" of cost to vent it before mining could begin.

Is methane the same as "natural gas"? Methane forms the major component of conventional natural gas.[6] Its vaporous nature makes the old "ferae naturae" analogy appropriate. The main point of differentiation between coalbed methane and conventional gas is the methane's occupation of coal seams. If no legal distinction is found between coalbed methane and other natural gases, then conveyance of oil and gas rights may be presumed to include methane.

Ambiguous lease provisions require judicial interpretation. In states, such as Kentucky and Pennsylvania, which traditionally have coal mining as the dominant

industry, challenges are presented to the viewpoint that would treat methane as being subject to transfer by a conveyance of oil and gas. The coal interests argue that coalbed methane is not normally found in association with oil and conventional natural gas, and that methane should be considered a coal by-product. It is further argued that, since methane was formerly thought to be valueless, transfer of methane should not be presumed from a conveyance severing the oil and gas rights from the coal or surface ownership. The courts are asked to consider that coal rights ownership includes rights to the strata in which the coal was located, and everything, including methane, in that strata.[7]

CONFLICTING USE PROBLEMS

If the gas owner is held to own the methane underlying a coal seam owned by another, legal and practical questions arise. Here are some examples:

May the coal owner ventilate the methane during mining operations; and if so, must he compensate the gas owner for the loss of the methane?

If the coal owner may ventilate gas for safety reasons without compensating the methane owner, may he also capture the gas after venting for sale or use?

To what extent may the methane owner use recovery techniques such as hydrofracturing[1] which may arguably damage the "roof" strata of the coal seam and make future mining unsafe?

If the gas owner must compensate the coal owner for interferences with the coal owner's right to mine, what is the measure of damages and is there a duty to mitigate?

May the gas owner enjoin mining of coal to prevent waste of the methane?

May the owner of coal enjoin the gas owner from interfering with mining operation?

Does the surface owner have a right to royalties if the methane is captured and sold by gas owner or coal rights owner?[2]

An opinion issued by the Pennsylvania Attorney General's office in 1974[3] analyzes the ownership problem, applying Pennsylvania common law pertaining to natural gas ownership. Citing Westmoreland N. Gas v. DeWitt, supra, and Brown v. Vandergrift, 80 Pa. 142 (1875), the Attorney General concluded that Pennsylvania's "non-ownership" theory applied to methane, and that neither the surface owner, coal owner or gas owner has absolute title to methane "in place." The opinion noted that federal and state mining safety laws require the venting of methane from mines, and that in this sense the coal owner exercises control over the methane. However, the opinion cites Chartiers Block Coal Co. v. Mellon, 152 Pa. 286, 25 A 597 (1893) for the holding that the grantee of coal owns the coal but

nothing else save the right to mine it. The opinion concludes that the right to ventilate methane gas implied in a conveyance of coal rights does not include the right to convert the gas to the coal owner's use, and that the right to exercise economic control over the methane belongs to the gas rights owner or grantee.

There have been two attempts to solve conflicting claims to methane by statute. In 1977, the state of Virginia passed a law stating that all migratory gases are conclusively presumed to be the property of the surface owner (who presumably may then convey them).[4] In Oklahoma, "natural gas" is declared to be the property of the surface owner or gas lessee.[5] This statute does not specifically refer to methane. It has been pointed out that the Oklahoma statute could easily be amended to remove all doubt by including methane by name within the definition of natural gas.[6] No judicial interpretation has been made of the Oklahoma statute as yet.

Thus far, the statutes that have been drafted to resolve the ownership problem have themselves been ambiguous. The courts will probably be called upon to settle ownership/use issues for the foreseeable future. As noted in the previous chapter, the courts will look at the language of the instrument of conveyance to determine intent. The intent of the parties, as determined by general knowledge, is another factor to be considered. In deciding cases involving methane ownership, the courts are dealing with a substance not formerly known to possess any value, and which applicable law treats as a safety hazard rather than a commodity. In such a case, the acts of the parties subsequent to the conveyance may be used to supply intent, as, for example, if either party begins producing methane commercially without objection. Conceivably, a claim of adverse possession could succeed under such circumstances.

It has been noted that, because of the established practice of coal mine operators to vent methane in normal mining operations (and because this is now a duty imposed by federal and state law), a grantor or lessor of coal rights could

be held to have contemplated that the gas would be so vented, and that therefore the coal owner and its lessee owes no compensation to the grantor/gas lessee for loss of the gas.[7]

Alabama cases seem to follow the general line of thought that mineral conveyances will be construed in favor of the lessee,[8] while oil and gas leases will be construed in favor of the lessor.[9] The basic principle is that a conveyance will be construed most strongly against the party who prepared it. Usually, that party is the grantor, but in the case of oil and gas leases, the lease document is prepared by the lessee.[10]

The timing of a conveyance may be important to the determination of intent. The first severance of mineral rights from the freehold is considered most important, and controls the record of title for subsequent transfers.[11] Besides this priority of contract, priority of development is also important and, as a practical matter, may make development of the conflicting interests difficult or impossible, as where the coal rights have been severed and the coal owner vents the methane.

The fact that coal, oil and gas may occur in separate strata must be taken into account in applying existing case law to methane gas. A fundamental conflict of use problem is the extent to which a coal owner may prevent a gas/oil owner from gaining access to a lower strata by drilling through the coal seam. It has generally been held that oil and gas owners have an implied access right through an overlying coal seam although the coal conveyance contains no reservation of access. This right, however, has limitations. Cases generally follow one of three theories: the "necessary interference" theory; the "reciprocal servitude" theory; and the "way of necessity theory."

The first of these was expressed in Chartiers Block Coal Co. v. Mellon, supra. The oil and gas lessee was held to have acquired a right of access to the lower strata, subject to a duty to pay damages to the coal owner for the "necessary in-

terference" with the coal. The second theory was expressed in the concurring opinion in Chartiers, wherein Justice Williams opposed the majority holding that damages were recoverable for necessary interferences with the coal, stating that "reciprocal servitudes" of access and support exist between the coal and gas estates and that courts would regulate mining and drilling so as to provide for the least amount of harm. The third theory was advanced in Pyramid Coal Corp. v. Pratt, 229 Ind. 648, 99 N.E.2d 427 (1951). The court in this case held that the gas owner has a "way of necessity" similar to that of a land-locked surface owner. The court did not discuss the issue of damages.

There are no Alabama cases directly on point. However, in Kilfoyle v. Wright, 188 F.Supp. 899 (D.C. Ala. 1960), the Federal District Court held that the owner of an interest in minerals in place has the right to do any acts necessary to produce oil and gas and has the right to grant leases. The "necessary interference" language of Chartiers appears several times in Alabama cases dealing with the use which may be made of the surface property by a coal owner in order to mine the underlying coal. In Williams v. Gibson, 4 So. 350, 84 Ala. 228 (1887) the court held that an express grant of all the mineral rights in a tract of land is by "necessary implication" the grant of the right to open the mines and occupy as much as necessary of the surface to do so, adding that what improvements to the surface are "reasonably necessary" to work a given mine was a question for the jury. Alabama courts seem to follow the concurring opinion in Chartiers in not awarding damages for the "necessary interference." In Bagley v. Republic Iron and Steel Co., 69 So. 17, 193 Ala. 219 (1915), the court stated that one who has the right to mine coal on land has the right of exclusive possession as against the surface owner so far as is reasonably necessary for mining operations, and is not liable for damages necessarily resulting from ordinary operations not injurious to the surface. These Alabama cases seem to adopt a point of view consistent with the "easement of necessity" theory, with the refusal to allow damages as expressed by the concurring op-

inion in Chartiers. The above principles seem to work in favor of a gas owner wishing to produce coalbed methane from nonowned coal. However, the same principles work in favor of the coal owner as regards his rights to ventilate methane during normal mining operations.[12]

Cases exist which restrain an oil rights owner from extracting the oil at the expense of another's right to the gas in the same stratum.[13] Other conflicts between surface owners and coal owners also may have some application to methane-coal use conflicts. In most jurisdictions, including Alabama, it is settled that absent express or clearly implied rights, a coal owner may not "strip mine" the coal or otherwise damage the surface without acquiring rights to the surface.[14] If the gas owner is held to own the rights to coalbed methane, production techniques which could be seriously detrimental to coal production might be prohibited under this line of reasoning. Practically, since surface mining is an economic means of mining coal, agreements are negotiated between surface owners and coal owners. It has been postulated that effective commercial production of coalbed methane will have to be accomplished through similar negotiated agreements between gas owners and coal owners.[15]

In many jurisdictions, including Alabama, the landowner's right to subsurface support of his property is absolute, and if mining causes the surface to subside, the coal rights owner will be liable to the surface owner regardless whether the mining was done in a negligent manner or not.[16] This principle might be applied in cases involving the respective rights of coal and methane owners. Since the surface owner's right to subjacent support is absolute, a coal owner may be prevented from removing all the coal. Sufficient coal "pillars" must be left to support the surface. It has been theorized that a court could, following this reasoning, hold that the coal owner has a right to have the coal preserved in situ in "mineable" condition, and that the gas rights owner might be prevented from imparing the mining operations.[17] Under this argument, just as full recovery

of coal must be subordinated to the surface owner's right to maintain the surface in its natural state, full (or even partial) recovery of the methane by the gas owner should be subordinated to the coal owner's right to the coal in a "mineable" state.

Besides the duty to provide subjacent support, the common law imposes upon landowners a duty to avoid waste which the courts might also consider in deciding use conflicts cases. In Ohio Oil Co. v. Indiana, 177 U.S. 190 (1900), an important early case, the U.S. Supreme Court upheld a state's right to prohibit waste of gas or oil from a well. In Ohio, a common owner was prohibited from allowing escape of oil from a well to the detriment of the owners of gas rights. The reasoning in Ohiowould support state legislation regulating methane production.[18] However, attempts to legislate methane ownership rights, discussed in a later chapter, may be declared unconstitutional as an attempt to deprive gas, coal or surface owners of property without due process of law.

THE CASE OF U.S. STEEL V. HOGE

In 1980, a Pennsylvania court decided U.S. Steel v. Hoge,[1] the first major case to address methane ownership. Plaintiff United States Steel filed an action seeking an injunction against defendant Hoge to prevent Hoge from hydrofracturing a coal seam belonging to plaintiff so that Hoge, the gas rights lessee, could extract methane. U.S. Steel also claimed that it was the rightful owner of the methane, as the coal rights lessee.

U.S. Steel made the following arguments: that methane was not a natural gas; that as coal rights owner U.S. Steel owned everything in the coal stratum including the methane; that the language of the oil and gas lease did not convey to Hoge the right to drill into U.S. Steel's coal seam; and that the hydrofracturing process should be enjoined as hazardous to future mining.

Hoge in turn presented the following arguments: that methane is a natural gas; that its right as a gas lessee to recover methane should not have to be postponed until after the coal was removed; that methane has historically been removed along with conventional natural gas from coal seams, and has been considered the property of the oil and gas lessee; and that hydrofracturing is not hazardous to coal mining.

The court in finding for defendant Hoge came to the conclusion that methane was a legally separate entity from coal.[2] In finding that methane was a natural gas, the court stated that methane is not a byproduct of coal, is chemically almost identical to other natural gases, and is, like the other gases, fugitive in nature.[3] The court found that, when the coal severance deeds involved were drawn in 1920, methane gas was not generally considered to have any commercial value. The reasonable inference was that methane was not intended to be included in the sale of coal rights, and that the methane was retained by the landowner at the time of the coal severance.[4] The court further inferred that the landowner intended to sell the coal rights to one purchaser and the gas rights to another.[5]

Regarding the coal owner's legal obligation to ventilate the mine, the court held that this right to ventilate does not carry with it a property right to all methane in the coal seam; however, the coal owner did have the right to capture and sell the methane released during ventilation.[6]

According to the court, the language of the oil and gas lease in this case included all of the oil and gas underlying the surface, regardless of whether the coal had been conveyed. While the owner of the coal had a right to preserve the coal seam from being drilled into unnecessarily, the language of the oil and gas lease did convey to the gas lessee the right to drill through the coal seam. The exact language of this conveyance is given as follows: ". . . all of the oil and gas and all of the constituents of either in and under the land . . ." for the consideration of "1/8 part of all methane gas."[7] The court reasoned that: ". . . by the very conveyance of the coal, there was expresaly retained in the present landowner's predecessor in title, the right to drill through the coal. And if the right to drill through the coal is retained . . . there exists inherently in the ownership of the gas and oil the right to drill for it and the implied right to drill into it."[8]

In finding for the defendant Hoge, however, the court did prohibit the practice of hydrofracturing the coal seam, stating that "[T]he coal owner need not sit idly by while the driller, under lease from the surface owner, drills into its coal seam, in such irregular fashion without persuasive knowledge of what the compression process will do or cause to the coal seam, and thus suffer his valuable property to be violated unnecessarily and unnaturally."[9]

The court also stated that regulation of gas drilling permits was necessary to assure that drilling operations were not, in frequency or location, in direct conflict with present or future mining methods. The court here refers to the "long wall" method of mining, which requires large areas of undisturbed coal to achieve productive results. The court also stated that there was no requirement that a

coal rights owner leave a block of coal in place for the sole purpose of feeding a coalbed gas well. The court stated that a coal owner, using its customary mining procedure, could mine through a methane gas well, even if the well was thereby rendered nonproductive. The court appears to conclude that, if coal blocks are left around a gas well, the coal owner must be compensated.[10]

U.S. Steel has filed an appeal in the Superior Court of Pennsylvania.[11] In its brief, appellant U.S. Steel argues that the right to ventilate a coal mine implies a property right in methane gas;[12] and that the commonly-accepted identification of methane with coal requires a determination of single ownership.[13]

Appellee Hoge in turn argues that the ventilation right does not convey ownership;[14] that the original grant of coal rights should not be expanded to include methane;[15] that the right of the oil and gas lessee to drill through the coal seam includes the right to capture methane;[16] and that single ownership of coal and methane would not be in the public interest.[17]

If upheld by the appellate court, U.S. Steel v. Hoge still leaves some important questions unanswered:

1) Can the coal owner force the methane owner to vent the gas?
2) If so, can the methane owner recover for the value of the lost gas?
3) How much interference with coal mining operations will be allowed?
4) Can the methane owner recover for any gas lost as a result of not being able to employ hydrofracturing?

JURISDICTION OF STATE AND FEDERAL AGENCIES

In Alabama, the State Oil and Gas Board has authority under Code of Alabama 1975, § 9-17-6 to regulate the spacing, drilling and production of oil and gas wells. Gas is defined in Code of Alabama § 9-17-1(4) as "all natural gas, including casinghead gas, and all other hydrocarbons not defined as oil." Since methane is the principal component of conventional natural gas, the Alabama definition of gas would seem to include methane. If the Pennsylvania Superior Court upholds the definition of methane as a natural gas set forth in U.S. Steel v. Hoge, this would be persuasive authority for such an inclusion.

The Alabama State Oil and Gas Board will extend its authority under the Code provisions to cover methane gas.[1] The Code authorizes the Board to establish drilling units[2] and prescribe the location of wells through special field rules and statewide spacing regulations.[3] These statutory provisions seem broad enough to allow the Board to promulgate statewide rules governing production from coal seams. This would aid in avoiding the indiscriminate permitting which might interfere with coal mining operations. The question of whether hydrofracturing should be prohibited is not within the Board's jurisdiction at present, as the evidence is inconclusive that hydrofracturing does damage the coal seam. Authorization of any procedure which would cause damage to a coal mine is not found within the statutory jurisdiction of the Board.[4] The question of whether hydrofracturing should be permitted will probably be addressed by the Alabama courts on a case-by-case basis.

In other states, regulation of methane has been undertaken by oil and gas regulatory agencies. Virginia and Oklahoma, as notes above, have specific statutes regulating methane ownership. In Virginia, the Division of Mines under the Department of Labor and Industry regulates oil and gas production as well as deep coal mining. This arrangement eliminates conflicts between mining regulations and gas regulations. Virginia statute § 45.1-119 regulates location of gas wells drilled

into coal seams. Safety requirements for drilling and casings are covered in § 45.1-122. Rule 18 of the Virginia Oil and Gas General Rules and Regulations provides specific requirements for protective barrier pillars of coal around these wells. This rule requires coal operators to notify the Mining Division whenever mining operations approach within 200 feet of a gas well. The Division of Mines then determines the size and configuration needed for the protective pillar and notifies the operator.

In Oklahoma, the Oil and Gas Conservation District of the State Mining Department is responsible for regulating degasification of coal seams. No rules governing methane production have been issued.[5]

The State Oil and Gas Conservation Commission has assumed control of methane well permitting in West Virginia. Completion requirements are comparable for wells producing from coal as from other sources. A standard oil and gas lease is interpreted to give the operator "the same rights to produce gas from black rock as from brown rock."[6] West Virginia has several operating methane wells, and there has not yet been any litigation of the Conservation Commission's jurisdiction.

Many states seem to take the attitude expressed by the Utah Department of Natural Resources: "Until something happens we have no intention of proposing legislation or adopting specific rules and regulations for coalbed production of natural gas."[7]

The experimental status of methane production fosters this cautious (or timid) outlook. However, failure to provide for regulation of methane production leads to expensive litigation and increasing federal control.

Methane gas is already covered under federal and state mining safety regulations, such as 30 U.S.C. §§ 801-960 (1976) and, in Alabama, Code of Alabama 1975, § 25-9-82. Other federal regulations applicable to methane include laws governing federal oil and gas leases. One example is the Classification and Multiple Use Act of 1964.[8] This act provides that various resources on federal lands should be

managed in combination. Under this Act, the granting of a lease to develop any one mineral does not preclude issuance of other permits or leases of the same land for other minerals. Coal mining operating regulations adopted under the Act provide that a coal lessee must provide plans to protect other development operations. This Act could be used to control methane production on federal coal lands.

Two other acts relating to federal lands--the Mineral Leasing Act of 1920 and the Federal Coal Leasing Amendments Act of 1975--could also be applied to regulate methane. The 1920 act sets up a permitting system for oil and gas exploration. The terms "oil" and "gas" are not defined. The 1975 Act requires the submission of land use plans and authorizes a "comprehensive exploratory program" to evaluate potential coal resources.

The National Environmental Policy Act[9] may in the future be used to prevent waste of methane gas. NEPA requires a detailed environmental impact statement be submitted for any "irreversible and irretrievable commitment of resources." This could be interpreted to require an EIS prior to leasing on federal coal lands to determine the effect on the methane contained in the seams.[10] It has also been suggested that the usual requirement that an EIS contain an analysis of alternative means to achieve project objectives could be interpreted to require an EIS contain an analysis of alternative means to achieve project objectives could be interpreted to require an analysis of whether "project objectives" could better be served by collecting the methane than by venting it.[11] This author notes that "[t]he environmental consequences of venting coalbed methane to the atmosphere may be one of the better-kept secrets of the last decade."[12] The potential for environmental damage if large amounts of methane continue to be vented might also lead to requirements that an EIS be filed for coal operations.

Methane is subject to the Natural Gas Policy Act of 1978.[13] The Federal Energy Regulatory Commission's definition of natural gas, found at 18 CFR 272.103 includes "gas from coal seams." Under § 107 of NGPA, methane from coal seams is a "High

Cost Natural Gas," and an operator planning to produce methane must make application with the state agency which administers NGPA. In Alabama, this agency is the State Oil and Gas Board. The filing requirement is for the present only a formality, since from the date of filing the price of the gas is decontrolled under § 121 of NGPA. As a practical matter, the State Oil and Gas Board has not had any applications filed for methane gas production as of mid-1981.[14]

The Methane Research, Development and Demonstration Act of 1980[15] authorizes the Department of Energy to establish a research and development program relating to methane-fueled vehicles. Grants of up to 50% of a methane facility's installation costs could be made under this Act to public entities. Administrative regulations under this Act have yet to be established.

DEPLETION ALLOWANCES FOR METHANE

One area in which the lack of an official definition of methane will probably be troublesome is the tax depletion allowance. Coal is depleted at a rate of 10% of gross income of property for the producer. If the landowner disposes of the coal but retains an economic interest (usually a certain sum per ton as royalty), the tax base of the property may be offset against the royalty, with the excess treated as a long-term capitol gain.

Natural gas is treated differently. The landowner who leases gas rights usually reserves a percentage of the gas in kind, and is treated for tax purposes as a producer. The depletion allowance may be taken as percentage or cost-depletion. The percentage for 1981 is 20% on an amount up to 6 million cubic feet. Amounts over this limit are prorated. The cost-depletion allowance for natural gas is similar to the depreciation allowance, and relates to the owner's base in the property.

The present state of tax regulations relating to methane is nebulous. Landowners may favor one form of depletion allowance over the other, and in the absense of a legal definition, methane could arguably be treated either way. It occurs in coal seams and could be called a byproduct of coal; but it is chemically very similar to conventional natural gas.

Precedent exists for IRS to declare methane a natural gas for tax purposes. Methane is, as has been noted, covered under the Natural Gas Policy Act. It has also been referred to as a "gas" in several state statutes. State oil and gas regulatory boards have assumed jurisdiction over methane, in the absence of legislation or judicial prohibition.

In Reich v. Commissioner,[1] it was held that geothermal steam was a "gas" for purposes of percentage depletion deduction granted for costs of drilling and developing oil and gas wells. The court stated that the oil and gas depletion allowance was not limited to petroleum and hydrocarbonaceous natural gas deposits.

Reich seems to afford ample precedent for a decision that methane should be treated as a gas for depletion purposes. Until the matter is settled in court, however, a producer who wished to try claiming methane under the coal depletion provisions might consider arguing the "coal byproduct" theory.

LEGISLATIVE TRENDS

A legal definition of methane gas is still lacking in many states. In states which have passed such legislation, the definition may be imprecise. The Oklahoma statute referred to previously which declares "natural gas" to be the property of the surface owner does not specifically refer to methane. Unless this act is amended to include methane by name, the question will probably be litigated in the near future. The Alabama definition of natural gas includes "all hydrocarbons not defined as oil,"[1] which would appear to include methane without specifically mentioning it. Again, the failure to name methane as a natural gas leaves scope for litigation of the U.S. Steel v. Hoge ownership question.

A Virginia statute[2] concerning gas ownership is the most clearly written legislative reference to methane presently enacted. This act provides that "all migratory gases, including but not limited to propane and methane, shall be conclusively presumed to be the property of the owner of the surface real property beneath which such migratory gases are or may be located." The effective date of this act is January 1, 1978. The act provides that litigation involving the legal construction of lease agreements entered into prior to the effective date shall be governed by "the applicable law in effect at the time the agreement or agreements were entered into." This brings up the question of whether leases written at a time when methane was not known to possess any value should be interpreted to include methane.

Other attempts to establish methane ownership by statute have been unsuccessful. The legislature of Pennsylvania considered a bill in 1977 which would have vested title to methane in the state without regard to the rights of surface, gas or coal owners.[3] Not surprisingly, the bill was defeated. In West Virginia, proposed legislation which would have vested title to methane in the natural gas rights owner to the exclusion of all other claimants was also defeated.

As noted above, the old case of Ohio Oil Co. v. Indiana allows legislative

regulation of coalbed gas extraction to protect the public interest and to mediate between conflicting rights of surface, coal and gas owners.[4] However, Ohio Oil would not support a law which would vest methane rights in one or the other of competing parties. The court in Ohio Oil stated that "the surface proprietors within the gas field have all the right to reduce to possession the gas and oil beneath. They could not be absolutely deprived of this right . . . without a taking of private property."[5] This language supports legislation such as the Oklahoma and Virginia statutes vesting methane ownership in the surface proprietor but does not support legislative favoring of one competing lessee over the other.

Ohio Oil also supports regulation to prevent waste. Anti-waste legislation pertaining to oil and gas is already in force in most states, including Alabama.[6] "Waste" is defined by the Alabama statute as "physical waste as that term is understood in the oil and gas industry"[7] and includes "[p]ermitting gas produced from a gas well to escape into the air."[8] Anti-waste statutes such as Alabama's which refer to waste "as the term is understood in the oil and gas industry" could not until recently have been found applicable to methane. Now that methane is being considered for commercial production, there has been some attention given to the possibility of amending these statutes to include waste of methane from coal seams.[9] The Alabama act includes "underground waste however caused and whether or not defined."[10] This waste prohibition would not be applicable to the coal operator unless the operator also owned the gas rights and was engaged in producing methane from the seam.

The legislative trend toward giving methane a legal definition as natural gas will probably continue, particularly if U.S. Steel v. Hoge and similar cases declaring methane a natural gas are upheld. There is also precedence for declaring methane a gas for purposes of the tax depletion allowance.

Legislation of methane ownership faces constitutional problems as well as political barriers. The statutes passed by Oklahoma and Virginia to declare methane

the property of the surface owner will probably form the pattern for ownership statutes in other states. Legislation such as that proposed in Pennsylvania and West Virginia which would vest methane in the state or one of the lessees would, if passed, be subject to a challenge under the U.S. Constitution as a taking of property without due process.

Increasing federal regulation of methane through existing laws such as the Mineral Leasing Act, the National Environmental Policy Act and the Natural Gas Policy Act will probably occur within the next few years. New federal regulations aimed specifically at methane are not as likely under the present Administration, which will probably place emphasis on controlling methane within the existing framework of regulations.

POLICY CONSIDERATIONS

The present uncertainty surrounding the legal aspects of methane production should make state legislatures begin now to formulate basic state policy on methane development. Regrettably, the intent expressed by the Utah Department of Natural Resources to wait until "something happens" to regulate methane production results in a loss of valuable lead time. Legislation drafted in a high-pressure situation--that is, after "something happens"--often fails to do an adequate job of dealing with the issues and must be interpreted by the courts in expensive and time-consuming litigation.

Legislatures in states with high methane potential such as Alabama should study present state laws which could be amended to regulate methane. A legal definition of methane should be developed and adopted. A legislative declaration of methane ownership is desirable to avoid litigation. Any such declaration must be precise, incorporating methane by name rather than merely referring to "natural gas" or "migratory gas" and should, to avoid constitutional challenges, vest title to methane in the surface proprietor, who will then be authorized to dispose of the methane by conveyance. Any declaration of ownership must also take into account questions of conflicting use.

Both state legislatures and Congress should begin now to resolve conflicts in state and local policy affecting methane. On a national level, safety considerations and the present federal laws requiring methane to be vented before mining can begin conflict with federal energy policy, which is opposed to waste. While concern over methane waste must be subordinated to safety considerations, a modification of existing safety laws to require capture of methane rather than release into the atmosphere would serve both purposes.

While a legislative declaration of methane ownership by one or the other lessee would be subject to constitutional attack, legislation can be used to resolve use conflicts. The problem of how coal mining can be allowed to proceed

when another party having the gas rights has not vented the methane could be addressed in several different ways. Two common-law remedies--adverse possession and a constructive quitclaim--could be established through legislation.[1] The quitclaim remedy could be enacted as a legislative declaration that the rights to methane belong to whichever party first reduces the methane to possession. This legislation would allow the coal operator to vent or capture the methane and proceed with mining and could be sustained on the reasoning that failure of the gas rights owner to collect the methane in timely fashion raises a statutory presumption that the gas rights owner does not regard the methane as possessing value. To avoid waste, the mine operator would then be declared the beneficiary of a "quitclaim" deed.[2] Policy should require that the gas rights owner be recompensed for the methane so vented or captured. The statutory presumption that methane not vented had been viewed as without value by the gas rights owner would fail if the methane had been specificially mentioned in an oil and gas conveyance for consideration.

Another legislative solution to the ownership conflict would be a declaration that the oil and gas rights owner had a certain period of years in which to reduce the methane to possession, failing which the title to the methane would vest in the coal rights owner. This legislation is said to be analogous to the principle of adverse possession in property law, whereby a legal owner of property may lose rights to the property by failing to exercise ownership rights.[3] In such a case, a party having an inconsistent claim to the property who exercises open and notorious dominion over the property for a period of years may be declared the owner. From a policy standpoint, a transferral of the methane rights to the coal owner, as opposed to forcing the gas owner to vent the methane, would be preferable as consistent with energy policy.

Until such legislation is passed, coal operators should attempt to get a quitclaim of rights to methane, or buy the rights to the methane from the gas lessee

or surface owner. As an alternative, the coal operator could contract to collect and store the methane for the gas lessee in return for compensation.

CONCLUSION

A Pennsylvania court speaking in Chartiers Block Coal Co. v. Mellon,[1] which held that a gas lessee had the right to drill into a coal seam stated that:

> "The discovery of new sources of wealth, and the springing up of new industries which were never dreamed of a quarter of a century ago, sometimes present questions to which it is difficult to apply the law as it heretofore existed. It is the crowning merit of the common law, however, that it is not composed of ironclad rules, but may be modified to a reasonable extent to meet new questions as they arise."[2]

Although the common law can and should be applied to questions of ownership and to resolve ambiguous terms in conveyances of oil, gas and mineral rights, state legislatures must begin now to consider adopting statutory definitions of methane gas and amending existing state mining, oil and gas and environmental regulations to cover methane. Present laws regulating methane venting are at odds with conservation principles and with federal and state energy policy. By starting now to reconcile these conflicting policies, states can avoid both costly litigation and federal pre-emption of methane regulation.

FOOTNOTES

Background

1. State Oil and Gas Board, Memo, November 24, 1980.

2. id.

3. Thomas U. Canby. "Fill'er Up! With What?", National Geographic Magazine, February, 1981, p. 74.

Ownership Theories

1. Deul and Kim. Methane in Coal from Asset to Liability, Mining Cong. J., November 1974, pp. 28, 32.

2. Ronald K. Olson. Coalbed Methane: Legal Considerations Affecting its Development as an Energy Resource, University of Tulsa Law Journal 1978, p. 387.

3. id., p. 387.

4. Alabama, California, Illinois, Indiana, Kentucky, Louisiana, New York, Ohio, and Wyoming.

5. Olson, op. cit. at 385.

6. Olson, op. cit. at 382.

7. Dee Ashley Akers, "Coalbed Methane Utilization: Legal Constraints;" paper presented at DOE Workshop on Unconventional Gas, Lexington, Kentucky, 1981.

Conflicting Use Problems

1. Hydrofracturing: a hydraulic stimulation technique which expands natural fractures in a coal seam by hydraulic pressure and water injection to increase the volume of methane released.

2. These hypotheticals are taken from Patrick C. McGinley, "Legal Problems Relating to Ownership of Gas Found in Coal Deposits," 16 Public Land and Resource Digest 319 (1979).

3. 53 Op. Pa. Attorney General (1974).

4. Code of Virginia, § 55-154.1 (1977).

5. Okla. Stat. tit. 52 § 231 (1971).

6. Olson, op. cit., at 389.

7. Paul N. Bowles. Coalbed Gas: Present Status of Ownership Issue and Other Legal Considerations, Eastern Mineral Law Institute, p. 7-1, 7-16 (1980).

8. Martin v. Knight, 275 So.2d 117, 290 Ala. 171 (1973).

9. Richard v. Cowley, 80 So. 419, 202 Ala. 337 (1918). The court stated that its holding took into account the "mobile character" of oil and gas.

10. Bowles, op. cit., p. 7-15.

11. H.L. Snyder, Oil and Gas Operations Through Coal Seams in West Virginia, Eastern Mineral Law Institute, p. 5-1, 5-27 (1980).

12. Bowles, op. cit., p. 7-15.

13. Ohio Oil Co. v. Indiana, 177 U.S. 190 (1900).

14. Biddy v. Bunch, 58 So. 915, 176 Ala. 585 (1912).

15. Bowles, op. cit., p. 7-21.

16. Corona Coal v. Thomas, 101 So. 623, 212 Ala. 56 (1924).

17. Bowles, op. cit., p. 7-21.

18. McGinley, op. cit., p. 344.

The Case of U.S. Steel v. Hoge

1. No. 682, C.P. of Green County (1980).

2. Opinion of the Court, p. 35.

3. Opinion of the Court, p. 36.

4. Opinion of the Court, pp. 31-32.

5. Opinion of the Court, p. 32.

6. Opinion of the Court, p. 33.

7. Opinion of the Court, p. 35.

8. Opinion of the Court, p. 36.

9. Opinion of the Court, p. 38

10. Opinion of the Court, pp. 40-41.

11. No. 1072 Pittsburgh 1980.

12. Brief of the appellant, p. 20.

13. Brief of the appellant, pp. 22-32.

14. Brief of the appellee, p. 31.

15. Brief of the appellee, p. 28.

16. Brief of the appellee, p. 33.

17. Brief of the appellee, p. 34.

Jurisdiction of State and Federal Agencies

1. State Oil and Gas Board, Memo, November 24, 1980.

2. Code of Alabama 1975, § 9-17-12(b).

3. Code, § 9-17-12(c).

4. State Oil and Gas Board, Memo, p. 2.

5. Memo from Oklahoma Corporation Commission to Alabama State Oil and Gas Board, October 8, 1980.

6. Memo from West Virginia Oil and Gas Conservation Commission to Alabama State Oil and Gas Board, October 22, 1980.

7. Memo from Utah Department of Natural Resources to Alabama State Oil and Gas Board, September 24, 1980.

8. 43 U.S.C. §§ 1411-1481 (1976).

9. 42 U.S.C. § 4321-4361 (1970).

10. McGinley, op. cit., p. 343.

11. Akers, op. cit., p. 7.

12. id., p. 1.

13. P.L. 95-621.

14. Telephone conversation with Oil and Gas Board legal staff, May 1, 1981

15. P.L. 96-512, 42 U.S.C. 7401 (1980).

Depletion Allowances for Methane

1. 454 F.2d 1157 (1972).

Legislative Trends

1. Code of Alabama 1975, § 9-17-1.

2. Code of Virginia, § 55-154.1.

3. Pa. H.B. No. 181 (1977).

4. 177 U.S. 190 (1900).

5. 177 U.S. 190, 209.

6. Code of Alabama 1975, § 9-17-11.

7. Code of Alabama 1975, § 9-17-1.

8. id.

9. Akers, op. cit., p. 5.

10. Code of Alabama 1975, § 9-17-1.

Policy Considerations

1. Akers, op. cit., p. 6.

2. id., p. 7.

3. id., p. 7.

Conclusion

1. 152 Pa. 286, 25 A 597 (1893).

2. id. at 294.